

1. A printing system wherein a transfer drum imparts a desired image on a medium for imprinting the image on the medium, and including a heater for preheating the medium to a selected temperature prior to the imprinting for facilitating reception of the image on the medium from the drum, the heater including a fuse for interrupting a supply of power to the heater upon an undesired increase in the supply and consequent overheating of the heater.

2. The printing system as claimed in claim 1 wherein the heater comprises a pattern of heat traces bonded to a support plate, the plate being disposed in the printing system for engaging the medium for effecting the heating of the medium to the selected temperature, and wherein the fuse is disposed in electrical series with the pattern of heat traces.

3. The printing system as defined in claim 2 wherein the heat traces are connected to the supply of power with a line lead and a neutral lead, and the fuse comprises first and second fuses respectively connected to the line lead and the neutral lead.

4. The printing system as claimed in claim 3 wherein the fuses comprise thermal fuses.

5. The printing system as claimed in claim 4 wherein a thermal storage member is associated with the pattern of heat trace and disposed relative to the fuses for opening both the fuses upon the consequent overheating.

6. The printing system as claimed in claim 5 wherein the thermal storage member comprises a foil disposed for communicating a thermal run-away of the pattern of heat traces to both of the fuses connected in series with the heat traces.

7. The printing system as claimed in claim 6 wherein the heater includes an insulator for electrically insulating the foil from the support plate, and the fuses are disposed relative to the foil for the opening of the fuses upon the thermal run-

away.

8. The printing system as claimed in claim 7 wherein the pattern of heat traces comprises an iron based alloy foil and the thermal storage member comprises an aluminum foil.

9. The printing system as claimed in claim 6 wherein the foil is disposed relative to the support plate for communicating thermal energy from the pattern of heat traces to the support plate whereby enhanced power density of the pattern can be realized.

10. The printing system as claimed in claim 6 wherein the foil is spaced from the pattern of heat traces by a first insulator, and the foil is spaced from the support plate by a second insulator.

11. The printing system as defined in claim 10 wherein the second insulator is configured for maintaining an insulating integrity upon the thermal runaway and before the opening of the fuse for precluding an electrical short between the heat traces and the support plate.

12. A heater assembly for heating media substrate in a printing system prior to imprinting a desired image on the substrate comprising:

- a plate member for engaging the substrate and communicating thermal energy thereto;

- a laminar assembly adhered to the plate member including a trace pattern for converting electrical energy to the thermal energy and a thermal storage member interposed between the plate member and the trace pattern for distributing the thermal energy throughout the thermal storage member; and,

- a thermal fuse serially connected to the trace pattern and disposed relative to the thermal storage member for detecting an undesired temperature increase in the laminar assembly sufficient for opening the fuse and electrically isolating the heater assembly against an electrical short between the trace pattern and the plate

member.

13. The heater assembly of claim 12 wherein the thermal fuse comprises first and second fuses disposed at ends of the trace pattern.

14. The heater assembly of claim 12 wherein the thermal storage member comprises a foil insularly disposed between the trace pattern and the plate member.

15. The heater assembly of claim 14 wherein a first insulator insulates the foil from the trace pattern and a second insulator insulates the foil from the plate member, the first insulator being configured for thermal degradation in the thermal run-away prior to a thermal degradation of the second insulator.

16. The heater assembly of claim 15 wherein the fuse is configured for opening prior to the thermal degradation of the second insulator.

17. A heater assembly for heating media substrate in a printing system prior to imprinting a desired image on the substrate comprising:

- a plate member for engaging the substrate and communicating thermal energy thereto;

- a laminar assembly associated with the plate member including a trace pattern for converting electrical energy to the thermal energy;

- a fuse serially connected to the trace pattern; and,

- means for communicating an undesired increase in temperature in the laminar assembly to the fuse for opening the fuse and electrically isolating the trace pattern from the electrical energy prior to generation of an electrical short between the trace pattern and the plate member.

18. The heater assembly of claim 17 wherein the means for communicating comprises an insulator disposed between the plate member and trace pattern and configured to maintain electrical insulation therebetween before the opening of the fuse.

19. The heater assembly of claim 18 wherein the means for communicating comprises a foil insularly interposed between the plate member and the trace pattern.

20. The heater assembly of claim 19 including a first insulator between the foil and the trace pattern and a second insulator between the foil and the plate member, the second insulator being configured to preclude an electrical short between the foil and the plate member upon thermal degradation of the first insulator due to thermal run-away and prior to the opening of the fuse.